

What is claimed is:

1. A method for automatically entering into a secure communication mode in a wireless communication terminal, comprising the steps of:

a) generating a token based on a data having the lowest frequency of generation among the voice data outputted from a vocoder of the wireless communication terminal;

b) at a transmission terminal receiving a request for a secure communication from a user and transmitting the token to a reception terminal; and

c) at the transmission terminal entering into a secure communication mode based on an acknowledge token transmitted from the reception terminal, and performing secure communication with the reception terminal.

2. The method as recited in claim 1, wherein the token includes a data having the lowest generation frequency among the data of voice packet data outputted from the vocoder as a token header.

3. The method as recited in claim 1, wherein the token is shorter than the maximum length of the data outputted from the vocoder.

4. The method as recited in claim 3, wherein the token includes a key used in an encryption algorithm for the secure

communication.

5           5. The method as recited in claim 1, wherein in the step b), the token is transmitted repeatedly a predetermined times.

          6. The method as recited in claim 5, wherein in the step b), the repeated transmission of the token stops when the acknowledge token transmitted from the reception terminal is received.

10           7. The method as recited in claim 1, further comprising the steps of:

          f) at the reception terminal checking out if the token transmitted from the transmission terminal is received, and  
15       transmitting the token formed in the step a) as an acknowledge token to the transmission terminal; and

          g) at the reception terminal entering into a secure communication mode and performing secure communication with the transmission terminal.

20           8. The method as recited in claim 7, wherein the step f) includes the step of:

          h) checking out if a session key generated in the transmission terminal and included in the token is matched  
25       with a session key generated in the reception terminal using a master key.

9. A computer-readable recording medium for recording a program that implements a method for automatically entering into a secure communication mode in a wireless communication terminal provided with a processor, comprising the steps of:

5       a) generating a token based on a data having the lowest frequency of generation among the voice data outputted from a vocoder of the wireless communication terminal;

      b) at a transmission terminal receiving a request for a secure communication from a user and transmitting the token to  
10       a reception terminal; and

      c) at the transmission terminal entering into a secure communication mode based on an acknowledge token transmitted from the reception terminal, and performing secure communication with the reception terminal.